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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/309,157 05/10/99 WRIGHT

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EXAMINER

027310 MM91/1019
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ART UNIT

PAPER NUMBER

2877

DATE MAILED:

10/19/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/309,157

Applicant(s)
Wright et al.

Examiner
Michael P. Stafira

Art Unit
2877



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment A, filed 8/27/2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 9
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,9,18-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mayes ('526).

Claim 1

Mayes ('526) discloses a light source (10) capable of producing a near infrared radiation in a controllable direction to a substance location (13) (See Fig. 1).

The reference of Mayes ('526) further discloses a sensor (11) oriented towards the substance location and capable of sensing near infrared radiation reflected from the substance location (See Fig. 1).

Mayes ('526) further discloses a housing (11) including a monochromator having no moving optical components and capable of isolating narrow portions of the near infrared spectrum and a detector (52) positioned to detect and quantify one isolated narrow portions of the near infrared spectrum created (Col. 2, lines 53-60). It is inherent to one skilled in the art to know that the sensor of Mayes ('526) produces the same type of information as a monochromator by

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isolating the wavelengths with a photodetector array as disclosed in Col. 2, lines 53-60 and Col. 6, lines 6, lines 27-47).

The reference of Mayes ('526) further discloses a communication member (28) between the sensor (11) and the monochromator (30) to transfer the sensed near infrared radiation to the monochromator (See Fig. 1).

Stearns et al. ('302) further discloses a processor (34) operatively connected to the monochromator for determining the amount of constituents in the substance based on the detected near infrared spectrum (Col. 4, lines 46-58).

Mayes ('526) teaches the claimed invention of the substance (13) being movable relative to the housing (11).

Claim 9

Mayes ('526) substantially teaches the housing is stationary and the substance being movable relative to the housing (See Fig. 1).

Claim 18

Mayes ('526) discloses the near infrared radiation is in the range of 400 nm to 1100 nm wavelengths (Col. 2, lines 24-35).

Claim 19

The reference of Mayes ('526) further discloses that the sensor is fiber optic (28) (Col. 5, lines 17-25).

Claim 20

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Mayes ('526) further discloses that the detector (52) is a photodiode array (Col. 6, lines 27-55).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-8,10-14,17, are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayes ('526) as applied to claim 1 above, and further in view of Sadjadi ('354).

Claims 2 & 3

Mayes ('526) substantially teaches the claimed invention except that it does not show a housing in mounted on a moveable carrier such as a agricultural implement. Sadjadi ('354) shows that it is known to have a housing mounted on a moveable carrier such as a agricultural implement (See Fig. 1). It would have been obvious to combine the device of Mayes ('526) with the agricultural implement of Sadjadi ('354) for the purpose of providing real-time measurements of large amounts of substance.

Claims 4 & 6

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being a pre-harvested or post-harvested agricultural product. It would have been

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an obvious matter of design choice to gain data on pre-harvested or post-harvested product, since applicant has not disclosed that the pre or post-harvested product solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with what was disclosed in the reference of Mayes ('526) in combination with Sadjadi ('354).

Claims 5 & 7

Mayes ('526) substantially teaches the claimed invention and shows the product is a grain (See Abstract).

Claim 8

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being soil. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use soil, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 10 & 11

Mayes ('526) substantially teaches the claimed invention except that it does not show the substance location is in a movable substance container such as an agricultural implement. Sadjadi ('354) shows that it is known to move a substance within a container such as a agricultural implement (Fig. 1). It would have been obvious to combine the device of Mayes ('526) with the substance moving of Sadjadi ('354) for the purpose of providing real-time measurement readings of a large amount of substance while it is being harvested.

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Claim 12 & 13

Mayes ('526) substantially teaches the claimed invention except that it does not show a substance is moving on a transport vessel such as a conveyor. Sadjadi ('354) shows that it is known to move a substance on a transport vessel such as a conveyor (Col. 2, lines 40-43; Fig. 2). It would have been obvious to combine the device of Mayes ('526) with the conveyor of Sadjadi ('354) for the purpose of providing measurement reading of a large amount of substance.

Claim 14

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the housing is mounted on a movable carrier and the substance location is moveable. It would have been obvious to one having ordinary skill in the art at the time the invention was made to mount a housing on a movable carrier with the substance location moveable since it was well known in the art that the housing on a moveable carrier allows the measurement of different substance as the housing returns to its start position.

Claim 17

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for methods comprising stationary interferometry etc.. It would have been an obvious matter of design choice to use methods etc..., since applicant has not disclosed that the methods solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the disclosed reference.

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5. Claims 21,27 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mayes ('526).

Claim 21

Mayes ('526) discloses irradiating the substance (13) with near infrared radiation (See Fig. 1).

The reference of Mayes ('526) further discloses a sensor (11) for sensing near infrared radiation reflected from substance location (See Fig. 1).

Mayes ('526) substantially teaches moving of the substance relative to the sensor (See Fig. 1).

Mayes ('526) further discloses isolating the sensed radiation into one narrow portions of the spectrum (Col. 2, lines 53-60).

Mayes ('526) further discloses analyzing one narrow portion and determining the amount of constituents in the substance (Col. 2, lines 53-60).

Claim 27

Mayes ('526) substantially teaches the substance being movable relative to the sensor (See Fig. 1).

Claim 22

Mayes ('526) discloses the near infrared radiation is in the approximate range of 400 nm to 1700 nm wavelengths (Col. 2, lines 25-35).

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6. Claims 23-26,29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayes ('526) as applied to claim 21 above, and further in view of Sadjadi ('354).

Claim 23

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the sensor is moving relative to the substance. It would have been obvious to one having ordinary skill in the art at the time the invention was made move the sensor relative to the substance since it was well known in the art that moving the sensor allows the measurement of different substance as the sensor returns to its start position.

Claim 24

Mayes ('526) substantially teaches the claimed invention except that it does not show a sensor is positioned in a agricultural implement. Sadjadi ('354) shows that it is known to have a sensor positioned in a agricultural implement (See Fig. 1). It would have been obvious to combine the device of Mayes ('526) with the agricultural implement of Sadjadi ('354) for the purpose of providing real-time measurements of large amounts of substance.

Claim 25

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being a pre-harvested agricultural product. It would have been an obvious matter of design choice to gain data on pre-harvested product, since applicant has not disclosed that the pre-harvested product solves any stated problem or is for any particular purpose and it

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appears that the invention would perform equally well with what was disclosed in the reference of Mayes ('526) in combination with Sadjadi ('354).

Claim 26

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being soil. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use soil, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 29-32

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for utilizing the constituents for agricultural hybrid development, breeding programs, soil analysis, or non-destructive analysis of nutraceuticals. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to use one of these analysis systems since it was known in the art that the analysis would provide better information for harvesting.

7. Claims 33,38 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mayes ('526).

Claim 33

Stearns et al. ('302) discloses irradiating the substance (13) with near infrared light (See Fig. 1).

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The reference of Stearns et al. ('302) further discloses a sensor (11) for sensing near infrared light reflected from the substance location (See Fig. 1).

Mayes ('526) substantially teaches moving the substance relative to the sensor (See Fig. 1).

Mayes ('526) further discloses isolating the sensed radiation into one narrow portions of the spectrum (Col. 2, lines 45-60).

Mayes ('526) further discloses analyzing in real time one narrow portion and determining the amount of constituents in the substance (Col. 2, lines 45-60).

Claim 38

Mayes ('526) further discloses that the narrow portions of the spectrum are isolated without moving optical components (See Fig. 1; Col. 2, lines 45-60).

8. Claims 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayes ('526) as applied to claim 33 above, and further in view of Sadjadi ('354).

Claim 34

Mayes ('526) substantially teaches the claimed invention except that it does not show a housing in mounted on a mobile carrier. Sadjadi ('354) shows that it is known to have a housing mounted on a mobile carrier (See Fig. 1). It would have been obvious to combine the device of Mayes ('526) with the mobile carrier of Sadjadi ('354) for the purpose of providing real-time measurements of large amounts of substance. It would be further obvious to one skilled in the art

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to know at the time of the invention to have the housing mounted in such a way so that the substance is past over by the carrier.

Claim 35

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the substance being a pre-harvested, post-harvested agricultural product, or soil. It would have been an obvious matter of design choice to gain data on pre-harvested, post-harvested product, or soil, since applicant has not disclosed that the pre or post-harvested product or soils solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with what was disclosed in the reference of Mayes ('526) in combination with Sadjadi ('354).

Claims 36-37

Mayes ('526) in combination with Sadjadi ('354) discloses the claimed invention except for the pre or post-harvested agricultural products comprise nutraceuticals. It would have been obvious matter of design choice to use nutraceuticals, since applicant has not disclosed that nutraceuticals solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the combination of Mayes ('526) and Sadjadi ('354).

9. Claim 39 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Mayes ('526).

Claim 39

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Mayes ('526) discloses a light source (10) capable of producing a near infrared radiation in a controllable direction to a substance location (13) (See Fig. 1).

The reference of Mayes ('526) further discloses a sensor (11) oriented towards the substance location and capable of sensing near infrared radiation reflected from substance location (See Fig. 1).

Mayes ('526) discloses a monochromator having no moving optical components and capable of isolating narrow portions of the near infrared spectrum (Col. 2, lines 45-60) and a detector (52) positioned to detect and quantify one isolated narrow portions of the near infrared spectrum created (See Fig. 1; Col. 2, lines 45-60). It is inherent to one skilled in the art to know that the sensor of Mayes ('526) produces the same type of information as a monochromator by isolating the wavelengths with a photodetector array as disclosed in Col. 2, lines 45-60).

The reference of Mayes ('526) further discloses a communication member (28) between the sensor (11) and the monochromator (30) to transfer the sensed near infrared radiation to the monochromator (See Fig. 1).

Mayes ('526) further discloses a processor (34) operatively connected to the monochromator for determining the amount of constituents in the substance based on the detected near infrared spectrum (Col. 2, lines 45-60).

Mayes ('526) substantially teaches the at least a light source, monochromator, communication member and processor are movable relative to the substance (See Fig. 1).

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10. Claims 15,16,28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mayes ('526) as applied to claims 1,21 above, and further in view of Tobler et al. ('084).

Claims 15 & 16

Mayes ('526) substantially teaches the claimed invention except that it does not show a conduit forming a flow path for a substance and having a secondary conduit forming a diverted flow path for a substance. Tobler et al. ('084) shows that it is known to have a conduit forming a flow path for a substance and having a secondary conduit forming a diverted flow path for a substance (See Fig. 6). It would have been obvious to combine the device of Mayes ('526) with the conduit of Tobler et al. ('084) for the purpose of containing a substance in a controlled environment and to provide back-up relief with a secondary conduit.

Claim 28

Mayes ('526) substantially teaches the claimed invention except that it does not show a substance moving in a conduit. Tobler et al. ('084) shows that it is known to have a conduit forming a flow path for a substance (See Fig. 6). It would have been obvious to combine the device of Mayes ('526) with the conduit of Sadjadi ('354) for the purpose of containing a substance in a controlled environment.

Response to Arguments

11. Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

12. If the applicant wishes to send a Fax dealing with either a proposed amendment or for discussion for a phone interview, then the Fax should:

1) Contain either a statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax cover sheet; and

2) Should be unsigned by the attorney or agent.

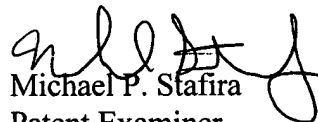
This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Papers related to the application may be submitted to Group 2800 by Fax transmission. Papers should be faxed to Group 2800 via the PTO Fax machine located in Crystal Plaza 4. The form of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Machine number is:

(703) 308-7722

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Examiner Michael P. Stafira* whose telephone number is (703) 308-4837.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Michael P. Stafira
Patent Examiner
Art Unit 2877

October 16, 2001/mps